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Commentary

## Why More Women Aren't Becoming Engineers

**We need to get behind the message that science and engineering are gender-blind.**

By Patricia G. Selinger

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At a time when information-technology companies scour the Earth in search of technical skills, fewer college women choose careers in science and technology than did the women of a decade ago. The number of college women earning bachelor's degrees in highly marketable fields such as computer science is down from 37 percent in 1984 to 28 percent today.

While women today make up 30 percent of doctors and lawyers and 50 percent of the overall workforce, they represent fewer than 10 percent of engineers. What is wrong with this picture?

It turns out, quite a bit. Like an iceberg, the biggest part of the problem lies below the surface in the way boys and girls are introduced to science and technology. While boys and girls are roughly equal in science abilities through age 9, their interests tend to diverge from that point onward.

From age 12 through 17, boys tend to focus on technical areas leading to careers in engineering, while girls of the same age tend to gravitate to the biological sciences and languages. One path leads to careers in science and engineering, the other to careers in medicine, law, and the arts.

What accounts for this difference? Part of the answer is that girls in high school don't take as much advanced math and science as boys do, which effectively discourages girls from pursuing engineering careers.

This is truly incredible. We are living in an age defined by technology and by the pervasive impact of the Internet on how we live, learn, and earn. We can ill afford to discourage technical skills at a time when our economy and competitiveness demand all the technically qualified people we can get.

Beyond that, we need to focus on the informal cues youngsters learn as they make career choices.

Like kids who go out for sports in the early grades, children who excel in technical areas tend to join clubs where they share

interests and reinforce one another's achievements. Right now, these technical incubators are largely male and oriented toward their interests, which discourages female participation in science and technology.

**We need to create a culture in our homes and schools that says, 'It's as cool for girls to become programmers, scientists, and engineers as it is for boys.'**

To change this discouraging situation, we need to create a culture in our homes and middle schools and high schools that says, "It's as cool for girls to become programmers, scientists, and engineers as it is for boys."

Studies indicate that parents, teachers, and mentors give more encouragement to boys to pursue advanced math and science than they do to girls. Teachers and parents, in particular, need to step forward to encourage girls to explore their mathematical and scientific talents. I know from personal experience that this encouragement matters. I wouldn't have chosen engineering without it.

In February, 10,000 women engineers visited classrooms throughout the country as part of "Introduce a Girl to Engineering Day." Of course, programs like this are only a start. We all need to get behind the message that science and engineering are gender-blind.

In addition to the tens of thousands of girls who will benefit from this open-door policy, engineering itself will be enriched as more women enter the profession and bring a fresh, more diverse point of view.

Women engineers have brought us such innovations as the AIDS-fighting drug AZT, the tiles on the outer surface of the space shuttle, bullet-proof vests, and the first English-language computer programs. Imagine the progress that lies ahead, once we tap the full potential of this relatively untapped talent.

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"[Research: Boys to Men](#)," Jan. 23, 2002.

"[N.Y.C. Vocational Programs Shortchange Girls, Women's Group Says](#)," Sept. 15, 2001.

"[Hispanic Girls Said to Face Barriers in School](#)," Jan. 13, 2001.

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